

DATA RESEARCH

Base maps for the study area were created from aerial photographs, as-built information from existing adjacent projects, and electronic files. Information was compiled from the following sources:

WSDOT

1. SR 519 Intermodal Access Project Grade Separation – Phase II Design File
2. SR 519 Intermodal Access Project Surface Street Improvements Environmental Re-Evaluation Report, dated June 2004
3. SR 519 Intermodal Access Project – Environmental Assessment, dated March 1997
4. SR 90 Seattle Transit Access As-Builts, dated January 11, 1989
5. SR 90 Seattle Transit Access- Unit 2 As-Builts, dated December 29, 1989
6. SR 90 and SR 519 Intermodal Access South Atlantic Street As-Builts, dated December 12, 2000
7. South Holgate Street Railway Crossing Closure Traffic Study, Traffic Impact Analysis by HDR, dated December 2003

City of Seattle As-Builts

1. SR 519 Surface Improvements As-Builts, dated August 9, 2004
2. Occidental Avenue South, dated August 31 As-Builts, 1998
3. South Connecticut Street Phase II Improvements As-Builts, dated October 16, 1974
4. Elliott Bay Interceptor - Plan 8 Profile Connecticut St Crossing Structure As-Builts, dated 1968
5. 1st, 3rd, and 4th Avenue South Sewer Rehabilitation As-Builts, dated May 4, 1995
6. Kingdom Sewer Separation Project - Phase I As-Builts, dated November 7, 1994

7. Alaskan Way/ Royal Brougham TIA Improvements As-Builts, dated March 12, 1993
8. Occidental Avenue South et al As-Builts, dated August 13, 1999
9. Massachusetts Street Turnaround As-Builts, dated July 29, 1988
10. South Massachusetts Street As-Builts, dated November 3, 1995
11. South Royal Brougham et al As-Builts, dated December 15, 1998
12. Occidental Avenue South As-Builts, dated January 29, 1997
13. First Avenue South As-Builts, dated October 15, 1998
14. Occidental Avenue South et al As-Builts, dated September 22, 2003

King County

1. Stadium Area Elevated Pedestrian Walkways - Royal Brougham Predesign Report, dated August 10, 1999

Aerial Photographs

1. Aerolist Photographers Inc., dated October 2004
2. WSDOT Aerial, spring 2005

Electronic Files From WSDOT

1. SR 519 Phase II 30 percent Design Base Map
2. SR 99 Preliminary Design Channelization
3. SR 519 Intermodal Access – Phase II Vicinity Map
4. SR 519 Intermodal Access – Phase II Right-of-Way Map
5. SR 519 Intermodal Access – Phase II Utility Map
6. SR 519 Intermodal Access – Phase I Profiles
7. SR 519 Intermodal Access – Phase I Bridge Plans

Railroad

1. BNSF Revised Alignment Plans
2. Amtrak Pacific Northwest Maintenance Facility Plans

Traffic Counts

1. March 2004 PM peak hour turning movements at 14 intersections
2. May 11, 2005 (Non-event), PM peak turning movements (from Mirai)
3. May 18, 2005 (Event), PM peak turning movements (from Mirai)
4. June 10 through 17, 2005, Tube counts: hourly volumes and vehicle classification on East-West crossings (from Mirai)

Existing Signal Timings and Channelization

1. Obtained from Mirai (developed as part of SODO Railroad Corridor Study for the Seattle Department of Transportation)

Volume Forecasting

1. Alaskan Way Viaduct DEIS Modeling (PB, 2004)
2. Port of Seattle (POS) Container Terminal Access Study (Heffron, 2003)
3. City of Seattle Transportation Model – Base Year 2000 and 2030 Forecast

ROADWAY DESIGN CRITERIA**Codes**

1. Washington State Department of Transportation (WSDOT) Design Manual (DM), July 2005
2. American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets (GDHS), 2004
3. Seattle Department of Transportation (SDOT) Right-of-Way Improvement Manual (ROWIM) September 2005

Grades		2. Minimum vertical curve length:	
	WSDOT DM Fig. 940-2		
Maximum Grade (35 mph)	6%	20 mph	NA
Desirable Grade	4%	25 mph	90 feet
		35 mph	105 feet
Maximum Grade (25 mph)	7%	Ramp Width	
Desirable Grade	5%		
Maximum Grade (20 mph)	7%	WSDOT DM Fig. 641-2a	
Desirable Grade	5%		
		Number of Lanes	1 2
		Traveled Way (ft)	15* 25
		Shoulders LEFT	2 4
		RIGHT	8 8
Horizontal Curves		*Tangent Width may be 12ft	
Horizontal Curve Minimum Radius (35 mph @ 4% Superelevation)	WSDOT DM Fig. 642-4 350 feet	Design Vehicle	
Horizontal Curve Minimum Radius (25 mph @ 2% Superelevation)	AASHTO GDHS Ex. 3-16 198 feet	WB-67	
Horizontal Curve Minimum Radius (20 mph @ 0% Superelevation)	120 feet	Design Speed	
Stopping Sight Distance		Westbound I-90 to South Atlantic Street:	35 mph
	AASHTO GDHS Ex. 3-72	South Atlantic Street to Occidental Avenue South:	25 mph
20 mph	115 feet	South Royal Brougham Way to 3rd Avenue South:	20 mph
	WSDOT DM Fig. 650-2		
25 mph:	165 feet		
35 mph:	260 feet		
1. K Values:	AASHTO GDHS Ex. 3-72 and 3-75		
20mph			
i. Crest Curve:	7		
ii. Sag Curve:	17		
	WSDOT DM Fig. 650-2		
25mph			
i. Crest Curve:	20		
ii. Sag Curve:	28		
35 mph			
i. Crest Curve:	51		
ii. Sag Curve:	52		